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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,450	01/29/2004	Thomas Enne Hjort	A2000-700319	3938

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EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT	PAPER NUMBER
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2836

NOTIFICATION DATE	DELIVERY MODE
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11/06/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ll-a.com
gengelso@ll-a.com

Office Action Summary	Application No.	Applicant(s)	
	10/767,450	HJORT, THOMAS ENNE	
	Examiner	Art Unit	
	Michael Rutland-Wallis	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-19 and 23-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-19 is/are allowed.
- 6) ☒ Claim(s) 4, 5, 12, 13, 23, 24, 31, 32, 35, 39 and 40 is/are rejected.
- 7) ☒ Claim(s) 6-11, 14, 25-30, 33-34, 36-38 and 41-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims 4-21 and 23-42 are withdrawn in view of the newly discovered reference Nielsen (U.S. Pat. No. 7,012,825). Rejections based on the newly cited reference follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 12-13, 23-24, 31-32, 35 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welches et al. (U.S. Pub. No. 20040084965) in view of Nielsen et al. (U.S. Pat. No. 7,012,825)

With respect to claims 4, 12, 23, 31 and 39 Welches teaches a system for providing power to a load (Fig. 5), the system comprising: a first input to receive AC power from a first AC power source (see AC Line connected to switch item 220); a second input to receive AC power from a second AC power source (see item 100); a third input to receive DC power from a first DC power source (item 400); an output that provides output AC power to the load (see output labeled load); converter circuitry (see

items 300 and 500), coupled to the first, second and third inputs and the output, and controllable (via power transfer switch item 200) to select from the first AC power source (AC Line), the second AC power source (item 100) and the first DC power source (item 400) to provide input power and derive the output AC power from the input power; a first bypass device (item 800) coupled to the first input (AC Line) and the output and controllable to operate in a bypass mode (switch closed) to couple the first input to the output to provide AC power from the first AC power source directly to the output, bypassing the converter circuitry; and a second bypass device (item 900) coupled to the second input and the output and controllable to operate in a bypass mode (switch closed) to couple the second input to the output to provide AC power from the second AC power source directly to the output, bypassing the converter circuitry. Welches does not teach a first power source transition mode, where the converter circuitry is adapted to detect an input AC voltage waveform period of the first AC power source and to control the controllable switches such that the converter circuitry draws current from the first AC power source during a first portion of the waveform period and the converter circuitry draws current from the first DC power source during a second portion of the waveform period for multiple waveform periods. Nielsen teaches a first power source transition mode, the converter circuitry is adapted to detect an input AC voltage waveform period of the first AC power source and to control the controllable switches such that the converter circuitry draws current from the first AC power source during a first portion of the waveform period (first half period) and the converter circuitry draws current from the first DC power source during a second portion (second half period) of

the waveform period for multiple waveform periods (see for example col. 2 lines 1-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Welches to include transition mode converter circuitry to draw from a first and second source during portions of periods of the AC signal in order to reduce losses and allow the backup supply to last longer (col. 1 lines 45-50 Nielsen).

With respect to claims 5, 13, 24 and 32 Nielsen as modified above teaches the detection of the waveform period and control of the switching between sources based on the period. Nielsen teaches the use of multiphase source and the switching between phases (see Fig. 7) based on the waveform periods. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nielsen to transition the draw between the second AC power source and the first DC power source in a similar fashion as the switching between the first AC power source and the DC power source in order to reduce power losses in the system when power the system from the second AC power source.

With respect to claim 35 Nielsen as modified above teaches the use of converters and regulators for producing the voltage from the first and second DC sources (items 701 and 702 for example)

With respect to claim 40 Nielsen as modified above teaches detecting return of the first AC Source (presence of waveform period); transitioning a draw of input current at the first input from the second AC source to the first DC source (701) by alternately (see for example col. 2 lines 1-10) coupling the second AC source and the first DC source to the first input of the UPS; and transitioning a draw of input current at the first

input from the first DC source to the first AC source by alternately coupling the first DC source and the first AC source to the first input of the UPS.

Allowable Subject Matter

Claims 15-19 are allowed. The following is an examiner's statement of reasons for allowance: Welches as modified by Nielsen teach the system for providing power however fail to teach the further limitation of a fourth input to receive DC power from a second DC power source, and wherein the converter circuitry is coupled to the fourth input through a controllable switch that is controlled in the first transition mode to draw current from the second DC power source during the first portion of the waveform period for multiple waveform periods. At least this further limitation is not taught or rendered obvious by the prior art of record.

Claims 6-11, 14, 25-30, 33-34, 36-38 and 41-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Welches as modified by Nielsen teach the system for providing power however fail to teach the further limitation of a fourth input to receive DC power from a second DC power source, and wherein the converter circuitry is coupled to the fourth input through a controllable switch that is controlled in the first transition mode to draw current from the second DC power source during the first portion of the waveform period for

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multiple waveform periods. At least this further limitation is not taught or rendered obvious by the prior art of record.

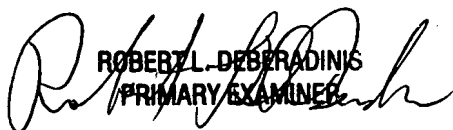
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW


ROBERT L. DEBERADINIS
PRIMARY EXAMINER